

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for reviewing voltage contrast defects on a semiconductor specimen comprising:
 - turning on an electron flood gun;
 - applying a surface charge to a semiconductor specimen by using the flood gun;
 - turning off the electron flood gun;
 - using an electron beam generator to direct an electron beam upon the surface of the specimen, wherein the electron beam causes secondary electrons to emanate from the specimen, wherein the electron beam generator produces an electron beam having a current level approximately within the range of 10-50 pico Amps;
 - detecting the secondary electrons in order to locate voltage contrast defects; and
 - reviewing the located voltage contrast defects.
2. (original) A method as recited in claim 1 wherein the surface charge is applied to the entire surface of the specimen.
3. (original) A method as recited in claim 1 wherein the surface has a negative or positive charge.
4. (original) A method as recited in claim 1 wherein the operations of claim 1 are repeated such that during each iteration, voltage contrast defects in a new sub-region are detected and reviewed.
5. (original) A method as recited in claim 1 further comprising:
 - reapplying a surface charge to the semiconductor specimen using the flood gun when the charge on the specimen is determined to be insufficient for voltage contrast effects to manifest.
6. (original) A method as recited in claim 1 further comprising:
 - positioning a specimen charge electrode above the semiconductor specimen; and
 - while the flood gun is turned on, biasing the specimen charge electrode at a certain voltage level in order to obtain a desired charge amount on the semiconductor specimen.

7. (original) A method as recited in claim 6 wherein the specimen charge electrode is negatively biased whereby a negative charge is applied to the semiconductor specimen.
8. (original) A method as recited in claim 6 wherein the specimen charge electrode is positively biased whereby a positive charge is applied to the semiconductor specimen.
9. (original) A method as recited in claim 1 further comprising:
supporting the semiconductor specimen with a specimen stage, wherein the semiconductor specimen and the specimen stage are in electrical contact; and
biasing the specimen stage at a certain voltage level in order to obtain a desired surface charge amount on the semiconductor specimen.
10. (original) A method as recited in claim 9 wherein the specimen stage is positively biased whereby a negative charge is applied to the semiconductor specimen.
11. (original) A method as recited in claim 9 wherein the specimen stage is negatively biased whereby a positive charge is applied to the semiconductor specimen.
12. (original) A method as recited in claim 1 wherein the operation of reviewing the located voltage contrast defect involves energy dispersive x-ray analysis techniques or cross-sectioning tools.
13. (cancelled)
14. (original) A method as recited in claim 13 further comprising:
detecting voltage contrast defects within features on the semiconductor specimen that have high aspect ratios.
15. (original) A method as recited in claim 1 wherein a scanning electron microscope inspection system is used for review.

Claims 16- 19 (cancelled)

20. (new) A method as recited in claim 1 wherein the electron beam has a spot size in the range of approximately 2-20 nm.
21. (new) A method as recited in claim 1 wherein the electron flood gun has a spot size in the range of approximately 1-2 cm and has a current level of approximately 0-10 milli Amps.